

CLAIMS

1. A moldable resin composition comprising:

5 (A) a blend of two copolyester elastomers (A1) and (A2): (A1) with a hardness in the range 45-72 Shore D, in an amount 75-97 wt. % of the blend, and (A2) with a hardness in the range 25-40 Shore D, in an amount 3-25 wt. % of the blend;

10 (B) a copolymer comprising from 94 to 50 wt. % of ethylene, from 5 to 35 wt. % of at least one alkyl or cycloalkyl acrylate or methacrylate, in which the alkyl or cycloalkyl group has from 2 to 10 carbon atoms, and from 1 to 15 wt. % of at least one unsaturated epoxide;

at least one of (C) and (D) where:

15 - (C) is a copolymer comprising from 88 to 60 wt. % of ethylene, from 11,5 to 40 wt. % of at least one alkyl or cycloalkyl acrylate or methacrylate, in which the alkyl or cycloalkyl group has from 2 to 10 carbon atoms, and from 0.5 to 6 wt. % of at least one anhydride of an unsaturated dicarboxylic acid;

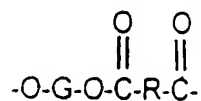
20 - (D) is at least one rubbery polymer that can be dispersed finely into the composition by extrusion;

(E) a calcium compound capable of reacting with acid end-groups of the polyether ester resins of blend (A); and

(F) one or more optional additives;

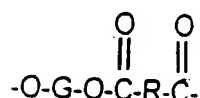
25 wherein the resin blend (A) is present in an amount of 60-90 wt. % of the composition; copolymer (B) is present in an amount of 6 - 15 wt. % of the blend A; copolymer (C) when present is in an amount up to 20 wt. % of the composition, and component (D) when present is in an amount up to 20 wt. % of the composition, providing the sum of (C) and (D) is at least 2 wt. % of the composition; the calcium compound (E) is in an amount such as to provide up to 2 wt. % elemental calcium
30 in the composition; and the optional additive(s) (F) when present is/are in an amount up to 20 wt. % of the composition.

2. The composition of claim 1 wherein at least one of the copolyester elastomers (A1) and (A2) is a copolyetherester consisting essentially of a multiplicity of recurring long chain ester units and short chain ester units joined head-to-tail through ester linkages, said long chain ester units being represented by the formula



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and said short chain ester units being represented by the formula



where G is a divalent radical remaining after removal of terminal hydroxyl groups from a poly(alkylene oxide) glycol having a molecular weight of about 400-6000 and a carbon-to-oxygen ratio of about 2.0-4.3; R is a divalent radical remaining after removal of carboxyl groups from a dicarboxylic acid having a molecular weight less than about 300 and D is a divalent radical remaining after removal of hydroxyl groups from a diol having a molecular weight less than about 250; provided said short chain ester units amount to about 15-95% by weight of said copolyetherester.

15 3. The composition of claim 1, wherein at least one of the copolyester elastomers (A1) and (A2) is a copolyester ester.

4. The composition of claim 1, wherein blend (A) contains copolyester elastomer (A1) in an amount 84-94 wt. % and copolyester elastomer (A2) in an amount 6-16 wt. % of the blend.

20 5. The composition of claim 1, wherein copolymer (B) and copolymer (C), when present, comprise alkyl acrylates and methacrylates selected from : methyl methacrylate, ethyl acrylate, n-butyl acrylate, isobutyl acrylate and 2-ethyl-hexyl acrylate.

25 6. The composition of claim 1, wherein copolymer (B) comprises unsaturated epoxides selected from: aliphatic glycidyl esters and ethers, and alicyclic glycidyl esters and ethers.

7. The composition of claim 1, wherein copolymer (C) comprises anhydrides of an unsaturated dicarboxylic acid selected from maleic anhydride, itaconic anhydride, citraconic anhydride and tetrahydrophthalic anhydride.

8. The composition of claim 1, wherein the rubbery polymer (D) is at least one of an acrylate terpolymer rubber and a butyl-acrylate/PMMA multiphase composite interpolymer.

5 9. The composition of claim 1, wherein the calcium compound (E) is calcium oxide or calcium hydroxide in an amount up to 2 wt. % of elemental calcium.

10 10. The composition of claim 1, wherein the optional additives (F) include a compound capable of accelerating the reaction between the epoxy groups present in the copolymer (B) and the acid end-groups of the copolyester elastomers (A1) and (A2).

11. A process for forming a molded article, comprising the steps of heating the composition of claim 1 above its melting temperature, forming the composition into a desired shape, and allowing the composition to cool for form a molded article.

15 12. A process for blow-molding an article, comprising the steps of providing a composition according to claim 1, forming a parison comprising said composition, inserting the parison into a mold, blowing a gas through the parison to form a blow molded article

13. A shaped article that includes the composition of claim 1.

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